

III. *On the Classification of the Natural Tribe of Insects NOTONECTIDES, with Descriptions of the British Species.* By William Elford Leach, M.D. F.R.S. and L.S.

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BEFORE laying down the characters of this interesting and natural tribe of insects, it may not be deemed improper to give a very short account of what has been done by preceding entomologists.

Linné and all his predecessors comprehended the species under the generic appellation *Notonecta*. The accurate Geoffroy was the first who separated *Notonecta* into two genera, which have been adopted by most succeeding writers, excepting Linné, who in the last edition of his *Systema Naturæ* has merely given the synonyms of that author, without taking the least notice of the important characters which induced him to separate them.

De Geer confounded the animals of this tribe with *Nepa* and *Naucoris*, whilst Latreille and Olivier placed them in a division of their family *Hydrocorisæ*.

In the *Edinburgh Encyclopædia* I separated them from the *Hydrocorisæ*, and placed them in a particular tribe, named in that work *Notonectides*, which term I shall adopt in the following little essay.

Ordo.

Ordo. HEMIPTERA\*.

Subordo. HYDROCORISÆ. Insecta aquatica, antennis minutissimis.

Tribus 2. NOTONECTIDES.

*Pedes* duo postici longiores, natatorii.

Fam. I.

*Corpus* cylindrico-ovatum, aut ovato-quadratum. *Tarsi* omnes biarticulati. (*Scutellum magnum*.)

Gen. 1. NOTONECTA.

*Corpus* cylindrico-ovatum. *Antennæ* articulo tertio secundo tenuiore. *Tarsi* antichi articulo primo longiore. *Ungues* postici minutissimi.

Gen. 2. PLEA.

*Corpus* ovato-quadratum. *Antennæ* articulo tertio aliis majore. *Tarsi* antichi articulis subæquè longis. *Ungues* postici magni.

Fam. II.

*Corpus* depresso-cylindricum. *Tarsi* antichi uniarticulati; quatuor postici biarticulati. (*Elytra* margine antico ad basin saltem canaliculato.)

Gen. 3. SIGARA.

*Scutellum* distinctum. *Thorax* transversus, linearis. *Corpus* ovatum, posticè acuminatum.

Gen. 4. CORIXA.

*Scutellum* nullum. *Thorax* transversus, posticè productus. *Corpus* lineare, anticè et posticè rotundatum.

\* In the *Edinburgh Encyclopedia* I have divided the HEMIPTERA of Latreille into HEMIPTERA and OMOPTERA, which Latreille considered as two great divisions of one order.

## Fam. I.

All the insects of this family swim on their back, moving by means of their long hinder legs, which resemble oars; whence they have been aptly named *boat-flies*.

## Gen. 1. NOTONECTA.

Besides the characters given in the above table, the following will be useful in order to enable the young entomologist to distinguish this genus from PLEA, from which it has not been separated by any entomologist\*.

The thorax is hexagonal, the anterior part is much attenuated, and the hinder margin is straight. The head is narrower than the broadest part of the thorax; the eyes are oblong, and converge a little behind; the hinder legs are much ciliated, and the claws are so minute as to be discovered with great difficulty; the tips of the elytra are notched.

Spec. 1. *Notonecta furcata.*

N. elytris nigris, maculis duabus baseos griseis: posticâ majore.

*Notonecta furcata.* *Fabr. Ent. Syst.* iv. 53.

——— *Syst. Rhyng.* 102. 2.

*Oliv. Encycl. Méthod. Hist. Nat.* viii. 388. 2.

Var.  $\beta$ . Elytris maculâ ferrugineâ.

*Habitat* in Caledoniæ, Angliæ aquis vulgatissime.

Obs. Elytra apice fuliginosa; dorsum nigrum.

Spec. 2. *Notonecta maculata.*

N. elytris fusco ferrugineoque variis, dorso ferrugineo fasciâ mediâ pernigrâ.

*Notonecta maculata.* *Fabr. Ent. Syst.* iv. 53.

——— *Syst. Rhyng.* 103. 4.

\* In the *Genera Crustaceorum et Insectorum*, tom. iii. p. 150, the accurate Latreille has detailed the principal characters of PLEA, which he considered as a species of *Notonecta*.

*Notonecta maculata.* Oliv. *Encycl. Méthod. Hist. Nat.* viii. 388. 4.

*Notonecta glauca* var. A. Latr. *Gen. Crust. et Ins.* iii. 150.

*Habitat* in Angliâ prope Bristol, Plymouth, et Exeter.

Elytra apice fuliginosa.

Spec. 3. *Notonecta glauca.*

*N. elytris* griseis margine fusco-punctatis, dorso nigro apice pallido.

*Notonecta glauca auctorum.*

Var.  $\beta$ . Elytris subferrugineis fusco-subirroratis.

Var.  $\gamma$ . Elytris apice subnebulosis.

Var.  $\delta$ . Elytris pallidis immaculatis.

*Habitat* in Britannîâ vulgatissime.

This species is by far the most common that occurs in Great Britain. The back of the abdomen is always black, terminated with pale yellow. Var.  $\beta$  at first sight bears a near resemblance to *N. maculata*; but the spots in the front of the elytra, and the colour of the back, will readily distinguish them. Var.  $\gamma$  I twice received from Mr. S. W. Millard, who took them near Bristol. Var.  $\delta$  I found in the north of England, and I suspect it to be an immature specimen. All the varieties, excepting the last, have a small blackish spot on the hinder margin of the elytra; but it is much more distinct in some specimens than in others, and it is never to be seen in *N. maculata*: this affords another character for discrimination, and therefore ought not to remain unnoticed.

Gen. 2. PLEA.

The thorax is obscurely hexagonal, with the hinder margin prominent and rounded; the head as broad as the broadest part of the thorax; the eyes are rather oblong, without the least tendency to converge behind; the hinder pair of legs not more ciliated than the others, but are terminated by very strong and distinct claws; tips of the elytra acuminate and entire.

Spec.

Spec. 1. *Plea minutissima.*

*P. grisea*, fronte lineâ fuscâ, thorace elytrisque subtilissime punctatis.

*Notonecta cinerea*, anelytra. *Geoffroy Ins. Par.* i. 477. 2.

*Notonecta minutissima.* *Fourc. Entom. Paris.* i. 220. 2.

*Latr. Gen. Crust. et Ins.* iii. 150.

*Oliv. Encycl. Méth. d.* viii. 389.

*Fabr. Ent. Syst.* iv. 59.

—— *Syst. Rhyng.* 104. 10.

Long. Corp.  $1\frac{1}{2}$  lin.

*Habitat* in aquis stagnantibus prope Londinum vulgatissime.

This species has been considered by Geoffroy, Fabricius, and Olivier, as *Notonecta minutissima* of Linné, which reference undoubtedly belongs to the following species; viz. to *Sigara minutissima*.

Whether *Notonecta minutissima* of Panzer (*Fn. Ins. Germ. In.* ii. 14.) be intended for this species, I cannot take upon myself to decide, as his figure indicates a deep notch in the hinder margin of the thorax, which I have not been enabled to detect in any specimens; his figure must therefore be incorrect, or be intended for a distinct species from the one in question.

Geoffroy has described the larva, never having seen the perfect insect.

## Fam. II.

## Gen. 3. SIGARA.

The characters already given sufficiently distinguish this from the two preceding genera.

Spec. 1. *Sigara minutissima.*

*S. supra cinerea*, elytris fusco obsolete maculatis, subtus pedibusque flavis.

Notonecta

Notonecta minutissima. Linn. Fn. Sv. 244. 905.

—— Syst. Nat. i. 713. 3.

*Habitat* in rivis, lacubus vulgatissime.

Long. Corp. 1 lin.

Linné has described this species so minutely as to leave no doubt with respect to the above reference; in the twelfth edition of his *Systema Naturæ*, and in the last edition of his *Fauna Suecica*, he has given the following characters: "*N. elytris cinereis; maculis fuscis longitudinalibus. Magnitudo minimæ arenule; depressa est. Pedes posteriores longiores; primum par minimum. Habet alas, elytra, scutellum.*"

*Sigara minutissima* is found in every part of Great Britain; I have observed it in the Lake of Killarney, and in other lakes in the south of Ireland; in the north of England, near Carlisle, and in Derwentwater; in Loch Lomond and Loch Katerine in Scotland; in the river Tavy in Devon; and I have frequently received it from the Norfolk collectors: whence we may infer that it occurs in that country.

To this genus probably belongs the *Sigara coleoptrata* of Panzer, *Faun. Ins. Germ. In.* 50. 24.

#### Gen. 4. CORIXA.

The thorax is more or less produced behind in all the species of this genus; but it is not evident in the first division of the genus until the elytra have been elevated. The front, the under parts of the body, and the legs, in all the British species, are yellowish.

\* *Elytris ad apicem subgradatim acuminatis.*

The channel on the anterior margin of the elytra in this division is uninterrupted, and gradually disappears before it reaches to the extremity of the elytra.

Spec.

Spec. 1. *Corixa coleoptrata.*

C. thorace rufo-grisco, elytris sublutescentibus: maculis longitudinalibus nigricantibus.

*Sigara coleoptrata*, elytris totis coriaceis fuscis; margine exteriori flavo. *Fabr. Syst. Rhyn. 105. 4.*

*Habitat* in Norfolkiae aquis prope Norwich.

Although the character by Fabricius does not accord with that given above, yet as he drew his description from a museum specimen (which generally assumes the colour he mentions) I give his synonym without any hesitation; but this insect is distinct from the *Sigara coleoptrata* of Panzer, which is figured with a scutellum, and most probably belongs to the genus *Sigara* as mentioned above.

\*\* *Elytris ad apicem subrotundatis.*

The channel in the fore part of the elytra, at about two-thirds from its commencement, is interrupted by an oblique transverse elevated line, and it terminates abruptly before it reaches to the apex of the elytron, and then it leaves the margin, inclining a little inwards or backwards.

a. *Elytris thoraceque rugulosis.*Spec. 2. *Corixa striata.* *— Tabl. Rhyn. 52.*

C. thorace elytrisque fuscis: lineolis flavicantibus transversis striatis, dorso nigro, lateribus flavidis.

*Notonecta striata.* *Linn. Fn. Sv. 244. 904. Syst. Nat. i. 712. 2.*

*Habitat* in aquis stagnantibus.

DESCR. Elytra striis undulatis flavicantibus, margine exteriori fusco. Thorax perfuscus lineolis transversis numerosissimis flavicantibus.

Spec. 3. *Corixa stagnalis.* *— Tabl. Rhyn. 53.*

C. fusca, thorace lineolis transversis numerosissimis flavicantibus, elytris fuscis flavido irroratis.

*Habitat*

*Habitat* in aquis stagnantibus putridis vulgatissime.

Elytra fusca flavido-irrorata; margine anteriore flavido; margine postico basin versus flavido-lineato. Dorsum fusco-nigricans.

This species is about half the size of *C. striata*.

Spec. 4. *Corixa fossarum*.

*C. fusca*, thorace lineolis sex transversis flavidis, elytris fuscis flavido-irroratis.

*Habitat* in fossis passim.

*C. stagnali* paulo minor. Elytra fusca flavido-irrorata, antice flavida, postice basin versus flavido-lineata. Dorsum flavum.

Spec. 5. *Corixa lateralis*. (= *Leucosticta*)

*C. albida*, thorace lineolis septem nigris, elytris nigro-irroratis: margine antico immaculato.

*Habitat* in fluviis.

*C. fossarum* paululum minor. Dorsum atrum, lateribus flavis.

Spec. 6. *Corixa dorsalis*. (= *caerulea*)

*C. flavida*, thorace margine lineolisque sex transversis nigris, elytris nigro-irroratis: margine antico immaculato.

*Habitat* in fluviis vulgatissime.

*C. stagnali* paulo major. Dorsum flavum.

b. *Elytris thoraceque glaberrimis, laevibus*.

Spec. 7. *Corixa Geoffroyi*. (= *punctata* Illig.)

*C. flavida*, thorace lineolis transversis numerosissimis nigris, elytris nigro-irroratis: dorso pernigro apice flavido.

La Corise. *Geoff. Hist. Nat. des Insect. i. p. 478. pl. 9. fig. 7.*

*Sigara striata*. *Panz. Fn. Ins. Germ. In. 50. 23.*



Long. Corp.  $\frac{1}{2}$  unc.

*Habitat* in aquis stagnantibus vulgatissimè.

All authors have considered this species as *Notonecta striata* of Linné, although it will not agree with his character. It is figured by Geoffroy and Panzer, and is of the former author the species serving as the type of the genus *Corixa*.

Spec. 8. *Corixa affinis*.

*C. flavida*, thorace lineolis transversis numerosissimis nigris, elytris nigro-irroratis: dorso pernigro; lateribus postice dentato-flavis.

*Habitat* in stagnis prope Plymouth haud infrequens.

*C. Geoffroyi* duplo minor.